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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,369	01/18/2002	Yasushi Hasegawa	350292001200	8088

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,369

Applicant(s)

HASEGAWA ET AL.

Examiner

Michael La Villa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 2-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1 and 9-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 1 and 9-13, Group I, in Paper No. 5 is acknowledged.
2. Claims 2-8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.
3. The requirement is still deemed proper and is therefore made FINAL.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.
5. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.
6. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.
7. Applicant's Abstract exceeds the permitted 150 words. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:
9. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 11-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant's amendment of 19 June 2003, which proposes new Claims 11-13, explains that antecedent support for these claims is found in the original, non-elected claims. However, applicant's proposed claims omit various features of the non-elected claims, rendering these broader claims unsupportable by the original, non-elected claims. Particularly, the original claims describe various process limitations that have been omitted.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

12. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1 and 9-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- I. Regarding Claim 1, it is unclear what is meant by the phrase "along a face in a direction of the longitudinal axis." It is unclear what is the claimed geometrical requirement with respect to the face and the direction of the axis. Do "along" and "in" place limitations on the type of face that can be identified?

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- II. Regarding Claim 9, it is unclear what is meant by the phrase "the pieces each comprise a bonding alloy containing 1 to 10 atomic % V on the divided face." The bonding alloy in Claim 1 is described as adhering the pieces together as opposed to being part of pieces. Thus, it is unclear what is meant in this claim by reciting that the pieces comprise the claimed bonding alloy.
- III. Regarding Claims 9 and 10, it is unclear what is the antecedent basis of the phrase "the divided face[s]" as there is no prior mentioning of this term.
- IV. Regarding Claim 11, it is unclear what is meant by the phrase "the transient liquid phase diffusion bonding alloy has an amorphous crystal structure." Does this refer to the structure before or after bonding? It is unclear what is meant by the phrase "1 to 15 atomic % of B or P or a mixture of B and P and 1 to 10 atomic % V." When a mixture of B and P are present, is the total atomic percentage of the sum of amounts of B and P limited to 1 to 15 atomic percentage? At the end of the claim, it is unclear what is meant by the recitation "piece or pieces being bonded." While it is understood what is meant by the possibility of "pieces being bonded," it is unclear what is contemplated by the possibility that one piece is being bonded. How can only one piece be bonded?

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- V. Regarding Claim 12, it is unclear what is meant by the phrase "the transient liquid phase diffusion bonding alloy is an amorphous Ni-base alloy." Does this refer to the structure before or after bonding?

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

15. A person shall be entitled to a patent unless –

16. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1, 9, 10, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa et al. JP 11-285860. Hasegawa et al. teaches joining steel pipe pieces with transient liquid phase alloy, containing the claimed amounts of V and other elements, wherein the alloy is amorphous nickel based. See Hasegawa et al. (Abstract; Figures 1 and 2; paragraphs 6-9, 13, 17-19; and Table 1). The claimed face is taught by the face perpendicular to the longitudinal axis of the pipe. While the pipe may not have actually been precision machined, it would be indistinguishable from a pipe that had been precision machined.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20. Claims 1, 9, 10, 11, and 13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hasegawa et al. USP 5,919,577. Hasegawa teaches joining steel pipe pieces with transient liquid phase alloy, containing the claimed amounts of V, B, P, and other elements, wherein the alloy is amorphous and iron based. With respect to Claim 11, the claimed compositional "contains" language allows for the presence of additional elements, notwithstanding the closing language of "balance being Fe and unavoidable impurities." See Hasegawa et al. (Abstract; Figure 1; Examples 1 and 2 and disclosed alloys therein; col. 21, lines 20-31; and col. 31, lines 20-30). Hasegawa does not exemplify bonding pipe pieces, but does teach that the disclosed alloys are effective for this purpose. It would have been obvious to one of ordinary skill in the art at the time of the invention to assemble pipe pieces with the transient liquid phase alloy disclosed by Hasegawa as Hasegawa teaches that these alloys are effective for the bonding of pipe pieces. The claimed face is taught by the face perpendicular to the longitudinal axis of the pipe. While the pipe may not have actually been precision machined, it would be indistinguishable from a pipe that had been

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precision machined. With respect to Claim 11, while Hasegawa does not disclose deformation properties, it would appear that the claimed article would encompass those of Hasegawa. Hasegawa teaches using similar materials and heat treatment, and so similar deformation properties would be expected.

Moreover, were the materials and processes of Hasegawa to obtain greater than claimed deformation under the conditions of Hasegawa, the final articles would not appear to be necessarily precluded from being obtained under different heat treatment conditions that meet the claimed deformation requirement.

CONCLUSION

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (703) 308-4428. The examiner can normally be reached on Monday through Friday.
22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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23. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa
June 30, 2003

A handwritten signature in black ink, appearing to read "La Villa", written in a cursive style.